S. LØVTRUP, *Department of Histology, University of Göteborg*

DNA synthesis in amphibian embryos at different temperatures

Embryos of *Rana platyrrhina* were allowed to develop at 10 °C and at room temperature (RT; about 20 °C). During all stages of development samples were taken for DNA determination with the microbiological method developed by Hoff-Jørgensen. At 10 °C a very brief period of constancy was observed during the early neurula stages, indicating the existence of two separate phases of DNA synthesis. This subdivision of DNA synthesis into two phases during the early part of development has previously been demonstrated by Gregg and the present author by a comparison of the DNA synthesis in normal embryos and in lethal amphibian hybrids. A second phase of constancy during early larval development, which has been observed previously, was confirmed. At RT no constancy was observed at this stage, and it was therefore concluded that this second constant phase is a specific low temperature phenomenon. However, the first constant phase was also seen at RT. When the results were plotted against morphological development, DNA was found to be higher at RT until stage 18 was reached, during the remaining part of development it was lower. The same final value was reached.

G. MÖLLER, *Institute of Tumour Biology, Karolinska Inst., Stockholm*

Studies on the development of the isoantigens in newborn mice

It has been suggested that there are two kinds of isoantigens: T- and H-antigens. The T-antigens are responsible for the cell-bound transplantation immunity while the H-antigens provoke the production of humoral antibodies. The present investigation is an attempt to reappraise the developmental history of the isoantigens capable of reacting with humoral isoantibodies – the H-antigens. Both erythrocytes and fixed tissue cells have been studied in different mouse genotypes and at different times after birth.

Red blood cells of newborn C3H mice were tested for agglutinability and lysis with isoantiserum. In neither test could any reactivity be discovered until the third day after birth . By the 6th day after birth the adult level was attained.

Spleen cells from newborn C3H mice did not react with cytotoxic antibodies during the first three days after birth . After six days adult sensitivity was reached.

In vitro absorption experiments with newborn less than 1 ½ day old C3H erythrocytes showed that these cells could not absorb antibodies to any detectable degree.

Similar experiments with spleen, liver and kidney cells from less than 1 ½ day old C3H mice showed that these cells were able to absorb antibodies.

X-irradiated spleen cells from less than 1 ½ day old C3H mice stimulated to the production of humoral isoantibodies when injected into adult mice of a foreign genotype. The lack of sensitivity of these cells to cytotoxic antibodies cannot therefore be due to the absence of the antigenic receptors.